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(71)Applicant : MATSUSHITA ELECTRON CORP
KOBAYASHI HIKARI

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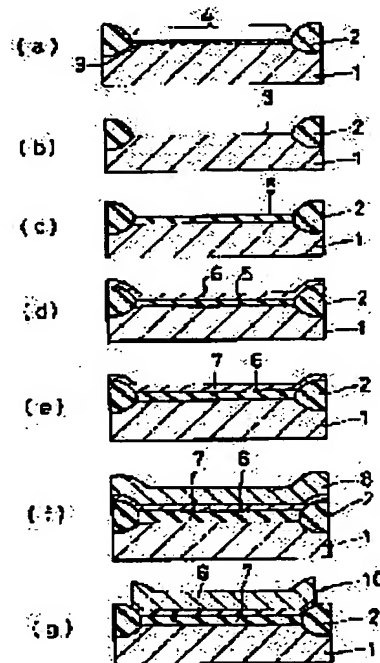
(72)Inventor : KOBAYASHI HIKARI
YONEDA KENJI
NAMURA TAKASHI

(54) SEMICONDUCTOR AND FORMING OXIDE FILM ON SURFACE OF SEMICONDUCTOR SUBSTRATE

(57)Abstract:

PROBLEM TO BE SOLVED: To form a high-quality oxide film at a high controllability, without using the high temp. heating and form a gate oxide film after metal wiring by forming the oxide film comprising a metal film having the oxidizing catalytic function on the oxide film.

SOLUTION: A semiconductor substrate 1 has an oxide film 7 and thin metal film 6 in this order on the surface. The film 6 is a metal of 0.5-30nm thick, having an oxidizing catalytic function. The film 7 is a film of 1-20nm thick, comprising a metal film of 1-20nm thick, having an oxidizing catalytic function. After, e.g. removing a natural oxide film 9 on a Si substrate 1, it is dipped in hot nitric acid to form a first oxide film 5 of 1.1nm thick, a Pt 6 of about 3nm thick is vapor-evaporated and heated at 300°C in a moist O₂ atmosphere to grow a silicon oxide film of 4.5nm thick, and Al 8 is deposited and patterned to form gate electrodes 10.



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